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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/547,205	08/14/2006	Charles Raymond Luffman	S1011/20187	4996

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EXAMINER

O'HARA, BRIAN M

ART UNIT	PAPER NUMBER
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3644

NOTIFICATION DATE	DELIVERY MODE
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10/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@crbcp.com

Office Action Summary	Application No. 10/547,205	Applicant(s) LUFFMAN, CHARLES RAYMOND	
	Examiner Brian M. O'Hara	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/17/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 19-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 35-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/14/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species II shown in Figs. 7-12 in the reply filed on 07/17/2008 is acknowledged.
2. Claims 19-34 and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 07/17/2008.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tonkovich (US Patent 6,565,037 B1).** Tonkovich discloses an aircraft with an inflatable envelope (20), curved upper (22) and lower (24) surfaces, a payload carrying means (42), and aerodynamic lifting means (70) which induce vertical flow over the upper or lower surface.
5. Tonkovich also discloses an inflatable envelope that is circular in shape when viewed in plan (See Fig. 2) and of a lenticular shape when view in elevation (See Fig. 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2-4, 8-14, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkovich in view of Kirjavainen (WO 2005/007508**

A1). Tonkovich discloses a lighter than air aircraft, with additional aerodynamic lifting means, but does not disclose spinning a plurality of airfoil blades located on a track. Kirjavainen, discloses a plurality of aerofoil blades (2) mounted for rotation, which are variable pitch (Paragraph [0013]), provided with pitch control means (Paragraph [0053]), are equispaced around the perimeter (See Fig. 1), mounted on a torque tube (Paragraph [0033], Line 5), have a low aspect ratio (See Fig. 21), and placed on a rigid ring (4) that constitutes a track way. At the time of invention, it would have been obvious to a person of ordinary skill in this art to provide the lighter than air aircraft of Tonkovich with the spinning aerodynamic lifting means disclosed in Kirjavainen. The motivation for doing so would have been to spin only the airfoils instead of the entire inflatable structure as shown in Tonkovich.

8. In regard to claims 11-14, the mounting and powering of the rigid ring, torsion shafts, and aerofoil blades would be obvious to a person of ordinary skill in the art. The use of pinion gears, flexible torsion shafts, bearings, universal

joints, carriages, and linear electric motors are all well known in the art and would be well suited for use in a spinning rigid ring with adjustable blades.

9. In regard to claims 4, 16, and 17, Kirjavainen discloses thrust control units to provide directional thrust (20), a plurality of discharge nozzles (22) to induce flow over the upper or lower surfaces (See Fig. 22), and additional means are provided to induce air flow over the upper or lower surfaces (See Fig. 24).

10. **Claims 15, 18, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkovich in view of Walden et al. (US Patent**

Application Publication 2006/0065777 A1). Tonkovich discloses lighter than air aircraft with a structural ring member for use in aerodynamic lifting means, but does not disclose the moving a lifting gas between impermeable membranes, or the use of electro-kinetic systems. Walden et al. discloses the use of an electro-kinetic system (104, See Paragraph [0029]) to induce air circulation over the curved upper or lower surfaces. Walden et al. also discloses a first flexible membrane (102 See Paragraph [0028]), a second flexible membrane (302), a diaphragm that separates two membranes for moving lifting gas between the membranes (See Figs. 3A and 3B). At the time of invention, it would have been obvious to a person of ordinary skill in this art to provide the lighter than air aircraft of Tonkovich with dual flexible membranes in order to change the pressures and densities inside the airship and allow it to lift upwards through the atmosphere. The motivation for doing so would have been to be able to control the aircraft more accurately.

11. In regard to the method claims 35 and 36, these methods are inherently taught in the Walden et al. disclosure since lifting gases are moved from one membrane to another to allow the aircraft to rise through the atmosphere. Additionally, the use of mooring lines is commonly used to hold balloons to the ground while a lifting gas is pumped into the flexible envelope.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian M. O'Hara whose telephone number is (571)270-5224. The examiner can normally be reached on compressed 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael R. Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/547,205

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644

/B. M. O./
Examiner, Art Unit 3644